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AUTHOR Belme, Jillian
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ABSTRACT

This study investigates the vocabulary development of preschool children in the five programs of the Mt. Druitt Early Childhood Project, New South Wales, Australia. A Vocabulary Assessment Task was designed to tap the customary style of reference used by preschool children in response to familiar objects, and to test the qualitative levels of the child's vocabulary in relation to selected referents. Objects used in the study were selected from familiar objects among the child's personal effects, his or her home environment, and those evident in a wider environment. The vocabulary tasks offered the opportunity for both naming and functional responses to occur. Spontaneous, productive and receptive responses were elicited. All responses were scored correct, incorrect or "don't know." The final sample of subjects consisted of 27 boys and 27 girls and was distributed across the five preschool programs. The data were analyzed using the Statistical Package for the Social Sciences Crosstabs Program. This analysis produced contingency tables for each level of response with a breakdown for the five programs and sex of respondent. No correlation was found when children's vocabulary task scores were compared with their scores on the Peabody Picture Vocabulary Test. Results indicate the pervasiveness of functional description in the language of preschool children. (Author/RH)

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PROJECT EVALUATION REPORT

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A Qualitative Analysis of Kindergarten Children's Vocabulary

Jillian Belme.

This draft paper reports specific aspects of evaluation activities not presented in detail in the Project's Final Report. Comments or requests for further information may be addressed to the Project, care of the above address.

NUMBER 8

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Preface

This study represents a description of the vocabulary development of Kindergarten children in the Mt Druitt area. It was completed under the auspices of the Mt Druitt Early Childhood Project. This Project was established to develop, implement and evaluate the effect of five different early childhood programs set up in the Mt Druitt area. The efforts of everyone associated with this Project in this study are recognised. The data analysis was done by Anne Clark.

The idea for such a study came from teachers in the Mt Druitt area who wanted to know about the vocabulary skills of the children in their care. Productive language concerns teachers in the Mt Druitt area, who see it as an important component of language competence in Kindergarten children.

In return for the useful ideas given by teachers, it is hoped that this study provides relevant information for teachers. In addition, if the study is seen to have implications for the classroom practices of teachers, the effort will have been well worthwhile.

Professor Hugh Philp
Project Director
Mt Druitt Early Childhood Project

John Braithwaite
Field Director
Mt Druitt Early Childhood Project

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A Qualitative Analysis of Kindergarten Children's Vocabulary

Introduction

Skill in language behaviour is central to success in school activities. The foundations of adequate, flexible language functioning are laid in the years of early childhood. During this time, significant advances are made by the child in the areas of syntactic, semantic and lexical development, and concept formation.

Traditionally, educators have regarded ability in vocabulary as a strong indicator not only of a child's potential for mastering language-related skills, but for general school success. Experimental studies have shown that tests of vocabulary correlated highly with both tests of mental development and reading ability, (Loban, 1963; Dale, 1965 (a); Dunn 1965 (b); Feifel and Lorge, 1950).

Although the foundations of these abilities are grounded firmly in the experiences the child has before attending school, programs and strategies used at school can foster and expand the child's language abilities, or restrict and inhibit them (Dale, 1965 (b)). In the case of disadvantaged children, it has been argued that a poverty of experiences early in life led to an expressive syntax that was incomplete and fragmented, and a vocabulary that was small and restricted. Moreover, the style of language used in the school did not match the language used in the home. Whether a language 'difference' or a language 'deficit' description is given to the language environment of the educationally disadvantaged child is immaterial; the mismatch remained (Labov, 1970; Bernstein, 1961). The full extent of the problems faced by the disadvantaged child has been expressed in the following way.

> 'Language problems of the educationally disadvantaged child are not merely problems of expression or dialect. They are basically conceptual problems ... most of these children will remain confused throughout their school career unless they are taught, starting now, the basic concepts and the manner in which these concepts are expressed through the kind of language used in the school.'('Distar' Guide (p5), in Cazden (1972) (p62)).

Vocabulary Development in Early Childhood Programs

The realisation that the preschool and early school years are crucial to language development has led to the growth of programs to promote language skills in young children. Many of these objectives and practices have relevance to the Kindergarten grade. Traditionally, vocabulary building and consolidation has taken place through material presented in picture books and through the manipulation and discussion of everyday items. Children were typically required to name items, and to show competence in communicating their ideas to others (Cazden, 1972). This approach lent itself to a whole/part organisation of subject matter, where children were encouraged to identify and name parts of objects, and to analyse the functional relationships between the parts. Other skills included were the ability to summarise events, and to predict outcomes. Through a wide range of experiences, the children enlarged their general vocabulary, which comprises the names of common objects, plants, animals, people and activities as part of a wider range of labels.

Other researchers asserted that there were important cognitive correlates in the vocabulary learning process (Blank, 1974; John and Goldstein, 1963). They argued that children must learn to use labels which have multiple reference, because this forms the basis of categorisation, which is an important cognitive skill. In addition, there is a vocabulary of quantity, and a set of words which describe temporal and spatial relationships. Kindergarten children need experience in handling this cognitive domain of words as well as the general vocabulary of their everyday experiences. Different curricula give varying emphasis to these two categories of vocabulary, although experiences and practice in both were necessary for the disadvantaged child at the earliest levels of schooling.

The present study, carried out as part of the Mt Druitt Early Childhood Project, attempted to explore the relationship between curricula approaches featured in the Project and the development of vocabulary skills. Five different programs were set up at preschool level and continued into the Kindergarten grade. These programs varied in the amount of emphasis given to language activities and the methods used to teach language knowledge and skills. In the Behaviourist and Competency programs, the teaching of skills which would facilitate the children's progress through the infants' grades was stressed. Labeling and categorisation skills were given detailed, careful attention through formal teacher-led activities supplemented by word games and so on. In the Cognitive program, the use of language to plan and achieve particular outcomes was emphasised with a basic vocabulary designed to assist the child with many of the logical activities being taught through daily, functional use. General vocabulary was not as important to the achievement of the program's primary objective as was the specialised cognitive vocabulary mentioned. The Contemporary program emphasised an individual approach with the ability to communicate effectively as an important objective. Proficiency in general vocabulary was seen as essential to effective communication and received more emphasis than cognitive vocabulary. The Home-Based program featured the same kind of emphasis as the Contemporary program in developing vocabulary skills. This was especially relevant to the needs of mothers in developing their children's skills, and the involvement of parents was an integral feature of the Home-Based program.

The present research focused on vocabulary as an important area for intervention with educationally disadvantaged children. The aim of the study was to ascertain the effects the five different programs implemented as part of the Mt Druitt Project had on children's vocabulary. The emphasis was on examining the qualitative levels in children's responses on an open-ended vocabulary task.

Research into Vocabulary

While much recent interest in language acquisition has focused on the growth of syntactic features in children's language, a significant amount of research has been carried out into the development of children's vocabulary. Early studies attempted to assess the size of children's vocabulary at various stages of schooling. The estimates of total vocabulary size for first grade children arrived at by these studies varied greatly from 2,703 (Dolch 1936) to 5,000 (Rinsland, 1945) to 24,000 (comprising 16,900 words and 7,100 derived items) (Smith 1941).

Other researchers have studied the language of children in the school situation. One longitudinal study measured the language abilities of children in primary school and related these to achievements on intelligence tests and performance in language-based school subjects eg. reading, writing (Loban, 1963).

At Kindergarten level, two groups were identified on the basis of an equal weighting of vocabulary test scores and teachers' ratings of language ability. One group scored 'exceptionally high language ability' on these criteria, and the other showed 'exceptionally low language ability'. Children's vocabulary was assessed in four ways, by a 100 item productive vocabulary test, by a word frequency count, by type-token ratio (a measure of vocabulary diversity) and by teachers' ratings of children's vocabulary ability. The performance of the two groups on these varied language tasks was compared.

The results demonstrated that there was a wide difference in children's vocabulary abilities as measured at Kindergarten level. The highest correlation in the study was between vocabulary and intelligence scores. Loban found that vocabulary scores in Kindergarten were highly correlated with intelligence scores in Year 2 ($r = .844$) as measured by the Kuhlmann-Anderson group test of intelligence. In addition, children in the higher group at the beginning of primary schooling used more words and communication units than the low subgroup, and they maintained this initial superiority. There were no differences between the two groups in terms of vocabulary diversity, although the researcher stresses that this finding could be an artifact of the experimental task used (the picture interview) and that a comparative analysis of naturalistic speech samples may provide a different result. In terms of word frequency, there appeared to be no difference between high and low groups on the most commonly used words in the Thorndike-Lorge word list, but the higher group was superior in the use of least commonly used words.

The results of this study pointed to the importance of vocabulary in developing other language skills such as fluency. Moreover, the high subgroups identified in this study largely on the basis of vocabulary performance, showed a consistent superiority in all tasks administered in the study.

More recent studies have attempted to isolate environmental factors in developing children's vocabulary skill, so that appropriate intervention programs could be established. Preliminary data are available from a longitudinal study which documents the influences affecting the lexical maturity of five-year-old children as measured by the vocabulary subtest of the Wechsler Preschool and Primary Scale of Intelligence (W.P.P.S.I.) (Jordan, 1978). A multiple regression analysis was used to analyse eleven variables, representing possible sources of influence on the vocabulary development of the children in the study in relation to the W.P.P.S.I. scores. The variables examined were somatype, biological risk, social risk, sex, race, family problems scale, STIM (a quantified description of the content of a home and its culture as a medium for the development of children's growth and development), home conditions, paternal occupation and maternal occupation.

In the first analysis of data, three 'wholly social influences' (race, STIM, social risk) were identified as being significant in developing vocabulary. For children of least verbal maturity, race disappeared as a significant influence, so that two variables, STIM and social risk (i.e. low social class) were the major sources of variance. The experimenters concluded that thefeatures measured by STIM i.e. the pattern of elements within the home eg. the emotional and verbal responsiveness of the mother , avoidance of restriction and punishment, organisation of the physical and temporal environment, provision of appropriate play material was the single most important set of factors in determining the extent of vocabulary development. Further analysis of STIM scores pointed to the overwhelming importance of the mother and her level of education in developing children's vocabulary.

These results complement similar analyses of language development in relation to experiences offered in early childhood programs. Assessment of the effect of preschool programs on the development of young children's language skills has been through studies using standardised tests, such as the Peabody Picture Vocabulary Test (PPVT) (Dunn, 1965). A consistent finding of these studies was that, for disadvantaged children, more structured programs were more effective in raising scores on tests of language (Bissell, 1968). Bissell suggested that there were three significant characteristics of the successful preschool programs which could have contributed to this result, i.e. objectives oriented towards cognitive development, a special emphasis on language development and teacher-directed activities which structure children's experiences (Cazden, 1972).

The important factors influencing the development of young children's vocabulary appear to be on the one hand, the mother's level of education, her style of verbal interaction and the environment of the home, and on the other hand, the provision of structured learning experiences in language in the school setting. Vocabulary proficiency, as measured by standardised tests, is affected by a range of variables.

Problems in Vocabulary Measurement

While early studies attempted to estimate the total size of children's vocabularies by various counting methods, more recent approaches to the study of young children's competence in vocabulary have centred on constructing and using tests of vocabulary assessment - the Peabody Picture Vocabulary Test for example. The use of tests like this in vocabulary measurement is widespread because of proven content validity and reliability.

However, there is a wider set of features to take into account when assessing children's vocabulary. It is essential to decide what is meant by 'knowing' a word, because this decision will influence the type of measurement used. Some researchers have outlined the skills that are involved in vocabulary development and have emphasised the role of experience in determining vocabulary range and skill (Dale, 1965 (a)). The ability to label and file experiences appears to be a necessary factor in making them flexibly available under many different conditions (Dale, 1965 (a)). Vocabulary tests however, assume that the labels that young children customarily give objects are names, although it has been suggested that children of six years of age customarily defined objects in terms of use (Feifel & Lorge, 1950). This type of definition is superseded by age 8, when children gave a large proportion of definitions in terms superior to use (Feifel & Lorge, 1950).

Vocabulary tests have other limitations and deficiencies for measuring the vocabulary of young children. Cazden (1971) points out that vocabulary tests, by limiting the number of words tested, and by treating the meaning of a word as a single item of information that a child either does or does not know, gives a very limited assessment of the child's ability to use words. In her view, vocabulary growth is just as much the growth and enrichment of meanings for words already known as the addition of new words to the child's lexicon.

The interpretation of vocabulary scores on tests such as the Peabody Picture Vocabulary Test , has also cuased some concern among some researchers. Some claim that poor results on the PPVT among disadvantaged children for example, reflect more the child's anxiety in taking the test, rather than a specific linguistic deficit (Zigler, Abelson and Seitz, 1973). The use of test-retest situations and of play sessions before testing both produced significantly raised scores over those obtained in the usual one-shot testing situation.

Other researchers have examined children's responses on vocabulary tasks and mapped the growth of the character of word definition as well as vocabulary range (Feifel & Lorge, 1950). These researchers found that the quality and completeness of word definitions changed considerably from 6 years to 8 years of age, although they also studied the responses of much older children (9 years - 14 years). They grouped responses children gave on the Form L Vocabulary Test of the Stanford Binet into five major categories representing qualitative levels of response. They were -

i) synonyms
ii) uses and descriptions
iii) explanations
iv) demonstrations, repetitions, illustrations and inferior explanations
v) errors

Generally speaking, their results indicated that older children used the explanation and synonym type of definition significantly more often than younger children. The younger children i.e. six-year-olds, significantly more often employed the use and description, demonstration, illustration, inferior explanation and repetition types of responses (Feifel & Lorge, 1950). These results were found to be consistent with the findings of Piaget, showing the nature of changes in conceptual development as children grow older (Piaget, 1955). The younger children tended to perceive words as concrete ideas, and emphasised the particular and isolated aspect of the object. The message of this type of research is clear; vocabulary assessment should give children an opportunity to show the level of response they can give to a stimulus.

Traditionally, vocabulary testing has taken two forms, depending on whether receptive or productive vocabulary is being examined. To test receptive vocabulary the examiner says the word, and the child must point to the correct picture from an array of three to four alternative pictures. This method tests the child's understanding of word meanings, but is limited in that it gives no indication of the child's ability to use the word and it is impossible to know (without further probing) whether the child has guessed the correct response. In a test of productive vocabulary, the examiner points to a picture and asks the child to supply its name. If the child provides a word that is not the required name, the examiner probes further. The child's responses can be scored on a scale depending on the appropriateness of the answer. The limitation of this task is that its criterion response is naming which, as we have seen, is not the most likely method of word definition for children six years of age.

The present research aimed to devise a vocabulary assessment method which could minimise these weaknesses. Three levels of children's control of vocabulary (spontaneous, productive and receptive) were measured in a situation intended to be non-threatening. The spontaneous section of the task was included to record the child's most natural or most customary response to the stimulus. Responses on this task were supplemented by giving the traditional productive and receptive tasks.

The Vocabulary Assessment Task

The Vocubulary Assessment Task was designed to tap the customary style of reference used by young children in response to certain familiar objects, and to test the qualitative levels of the child's vocabulary in relation to certain selected referents. Although research indicates that young children view objects and pictures as equivalent (Daehler et al, 1976), it is

more difficult to get young children to talk about a representation, particularly if it is not their own (Cazden, 1970). In particular, previous experience indicated that functional responses are suppressed if a picture is used, and specific probes are applied too early.

The objects used on the study were selected from a relevant universe of items from the child's point of view. Selections were made from familiar objects among the children's personal effects (sneaker, toothbrush set), their home environment (iron, clock, torch) and those evident in a wider environment (potplant, book). The book selected was a street directory, rather than a child's story book. There were two reasons for this choice. Firstly, the temptation to 'tell the story' to the experimenter could not arise with a street directory, and secondly, it allowed a more difficult domain of concepts eg. 'map' to be tested.

The items to be included in the lexicon of this task were chosen with the framework of a general (as opposed to cognitive) vocabulary task. The task was designed on a whole/part structure because this offered the opportunity for both naming and functional responses to occur. The items included the names of common objects, the names of their parts and the material they were composed of. Because the child was familiar with these objects, a knowledge of their uses and functions was very likely. The full list of items selected for the task are set out in Appendix A.

The Task was set up so that a hierarchy of tasks was presented to the child. Children were tested individually at a desk with the experimenter sitting beside the child. The objects to be discussed were in a box out of sight. The experimenter selected one object at a time, presented it to the child and said "You can play with this toy in any way you like. While you're doing that, tell me everything you know about it."

The experimenter recorded all the spontaneous comments made by the child, verbatim on the score sheet (Appendix B). At appropriate moments when the flow of the child's conversation flagged, the experimenter offered probes to test the child's productive and receptive knowledge of the set of lexical items drawn up for the task (see Appendix B). The experimenter only used those items not used by the children in their spontaneous replies. The spontaneous, productive and receptive tasks were always presented in the same order.

For the productive task, the experimenter pointed to the part of the object being examined and said "What do you think this is called?"

For the receptive task, the experimenter said "Show me the ...." The child's response consisted of pointing to the object or part of the object pointed to.

All responses on these tasks were scored as correct, incorrect or don't know. From the responses four distinct levels of vocabulary response were coded: spontaneous, productive, receptive, not known.

Data Collection

It was intended to collect data from twelve children from each of the five programs: six boys and six girls were randomly selected from class lists. However, at the end of testing some incomplete protocols were deleted from the sample to be analysed. The final sample analysed was 54 comprising 27 boys and 27 girls. The distribution of the sample over the five programs is shown in Table 1.

TABLE 1: Distribution of sample over the five programs

	Boys	Girls
Cognitive	6	4
Competency	5	6
Contemporary	4	5
Behaviourist	6	6
Home-Based	6	6
	27	27

The data were collected at the beginning of the second school term i.e. June 1978. All testing was done individually, with the experimenter and child in a room separate from the classroom.

Results

The data were analysed using the SPSS Crosstabs program (Nie et al, 1975) which produced contingency tables for each level of response, spontaneous, productive, receptive and unknown, with a breakdown for the five programs and sex respectively. There was one difference among the responses given by children in the five different programs on the lexical item 'cover'. Chi-square tests indicated that the difference was significant at the .001 level. This item was included in the list of items for the street directory stimulus. More children in the Competency program gave the word 'cover' both spontaneously and productively than the children in the Cognitive program. For the Behaviourist, Contemporary and Home-Based program, the word 'cover' was not given spontaneously and was most often recognised at the receptive rather than productive level. Three children in the Behaviourist (two in the Contempoary and one in the Home-Based program) did not know the word. The Competency program stresses among its objectives the acquisition of school-related skills eg. reading, categorisation and the learning of any related vocabulary is a language goal of the program.

The item 'wires' produced a difference in responses between boys and girls which was significant at .008. More boys used the term productively than girls (n = 18 boys to 8 girls). All girls knew the term, but showed their knowledge at the receptive level. Equal numbers of boys and girls used the term spontaneously i.e. ½ of each. These were the only differences in the 94 items tested. It appears that, as measured by this task, there were no major significant differences between the programs in developing general vocabulary in boys and girls.

The performance of the children on the vocabulary assessment task was compared with their scores on the Peabody Picture Vocabulary Test. Each child was given a numerical score on the Vocabulary Assessment Task by summing the number of their responses in the spontaneous, productive and receptive categories. Both sets of data were available on fifty children. However, the rank order correlation ratios ($r = .187$) were not significant ($p < .1$, $df = 48$).

The lack of correlation between these two sets of scores indicates that the open-ended task produces a different kind of response, and it does not have the same consistency as a measuring instrument as does the PPVT. Its main value may be as a descriptive device to elaborate the kinds of strategies children are using to form word meaning at a particular age.

Differences in Children's Response Styles to the Object

Children's spontaneous responses to the objects were analysed as being naming or functional responses. A naming response was exemplified by statements such as 'it's a clock' and 'it's called a torch', 'this is a toothbrush'. Naming responses also included those where features or attributes of the objects are used to describe it e.g. 'it's got sand', 'it's got leaves'. Imaginative descriptive responses were also included in this category e.g. 'a light see - er for torch'.

A functional response described the object in terms of its use e.g. 'Daddy uses it to see uder the house' (the torch); 'it shows you where to go' (street directory).

The type of response children used first in tackling the vocabulary task (initial strategy (I)) and the most frequently used response (overall strategy (o)) were counted. The results are shown in Table 2.

TABLE 2: Strategies used by Kindergarten Children in Vocabulary Task

Object

Response	Sneaker		Tooth-brush Set		Iron		Clock		Torch		Pot-plant		Book	
	I	0	I	0	I	0	I	0	I	0	I	0	I	0
Naming	33	20	28	20	25	9	32	14	32	16	41	22	28	19
Function-al	26	39	30	38	32	48	25	23	27	43	18	37	28	37

As an overall strategy, the functional description was used more often than the naming response for every item (See Table 2). As an initial strategy, there are some differences in children's style of response among the objects that were presented. For the 'sneaker', 'clock', 'torch' and 'potplant' the naming response was more frequent, while for the 'street directory', there was an equal number of naming and functional responses used as an initial strategy. For the 'toothbrush' and 'iron' there were more functional responses used initially than naming ones. It could be that the essential association of these items is one of functional action for the group of children tested. The naming response appears to be a preferred initial response, or its use reflects the child's view of what was expected of him in the experimental situation.

As an overall strategy though, children used functional responses more often than naming ones in relation to every object presented. The preference was especially marked for the 'iron' (48 functional to 9 naming), perhaps indicating that children had little experience in naming parts of the 'iron' and saw it essentially in terms of its use. The 'torch' was also seen very strongly in terms of its functions, or children described it in that way.

In order to assess which items in the Vocabulary Assessment Task were well known by children, the results were analysed by counting the total number of responses obtained for the items, although direct comparisons are made difficult by omissions from the data. Because this was an open-ended task, some lexical items were omitted by the experimenter. Moreover, for some lexical items, while noun uses of the items are noted in the protocols, verb uses are less frequently noted. However, some general guidelines of the items that were well known by the children and those that were not can be drawn up. The frequency of occurrence of the lexical items listed in the protocols is shown in Table 3.

TABLE 3: Frequency of occurrence of items in Vocabulary Assessment Task

Frequency	Item
58	shoelace
57	batteries/leaves
56	soil
55	lid, glass
54	wires
53	toothpaste, handle, cover (of a book)
52	toe, plug, numbers (of a clock)
51	rubber
50	toothbrush, cup, iron (verb)
49	heel, chord
47	holes (for choelaces)
46	pot, grow
44	clock, hands, time, strap
43	switch (noun)
41	stands
40	water, holes (of iron)
39	material, plastic (of pot of pot plant)
38	shoe, map
37	stem, plastic (of cup of toothbrush)
36	metal, burn
35	wind (verb), light (verb), plant (noun)
34	tongue, clips
33	squeeze, steam, globe
32	bristles, torch, water (work)
31	glass
29	iron, roots
28	button, spring
27	face (of clock), tick
26	tube, metal
25	brush (verb), book
24	clean, dark, switch
22	label
21	pair
20	bell, turn, picture
19	words
17	seeds
16	sole
14	tag, walk, alarm, silver
11	metal, electricity
9	rim, plant (verb)
8	press, potplant, front
6	back
5	clock
4	wash, spine (of book)
2	printing

A closer examination of the pattern of responses revealed a more exact description of the type of control the children had over the lexical items. For example, 'shoelace' was a word known by most of the children tested, and most of the occurrences of this word were produced spontaneously by the children. By contrast, 'heel' of the shoe was only produced spontaneously once, although many children had productive (26) and receptive (21) knowledge of the word. A different pattern again was shown by 'sole', which was a word not many children either produced or recognised. These frequencies are set out in Table 4.

TABLE 4: Frequency of Responses on a subset of items for the 'shoes'

Item	Frequency			
	Spontaneous	Productive	Receptive	Not Known
Shoelace	44	10	4	0
Heel	2	26	21	9
Toe	1	22	29	4
Sole	0	4	12	42
Tongue	3	9	22	21

'Heel' and 'toe' were clearly features that the children were able to apply successfully to shoes, (although some children used their own feet to explain these concepts) with correct responses being achieved by productive and receptive probes about equally. Very few children did not attempt a response or said they did not know, (nine for 'heel', and four for 'toe'). 'Tongue' was more difficult, and productive probes elicited such answers as 'you pull it and it goes tight,' or after identifying it as a 'tail', 'you've got to pull it out to put your shoe on'. These differences provide interesting data on the different applications of meaning a lexical item has, and gives some idea of the child's knowledge of these applications. 'Sole', a technical term applied to shoes was less well done again, because the children had fewer cues to call on. In response to the productive probe, most children called the 'sole' the 'bottom', but some use definitions were given e.g. 'the piece what you walk on' or 'so the foot won't come out'. Receptive errors included pointing to the side of the shoe and the upper part of the shoe.

The term 'pair' (of shoes) was not well known by children, with the productive probe proving most successful in eliciting the term. Thirty two children in the sample however, did not know 'pair' at any level tested.

'Batteries' was a term which was known by a great majority of children tested; all children seemed to have had experience with batteries and understood their function. Most children found the 'torch' interesting, and some different patterns in the level of response are evident. Some selected patterns are shown in Table 5.

TABLE 5: Frequency of Responses on a subset of items used for the 'torch'

Item	Frequency			
	Spontaneous	Productive	Receptive	Not Known
Batteries	40	16	1	0
Strap	0	7	37	7
Spring	0	13	15	21
Globe	2	11	20	27
Wires	8	26	20	3
Glass	19	26	10	4

'Batteries' and 'glass', perhaps because they are important and obvious components of a torch were produced spontaneously and productively more than the other items. 'Spring' and 'globe' were the least well known in terms of ability to label them, while 'strap' and 'wires' could be labelled by most children at either the productive or receptive levels. This set of labels also produced some confused and improvised responses from children. For example, children often called the 'spring' 'wire', probably referring to the appearance of the material comprising it. 'Wires' were treated in much the same way, being called 'strings' and 'strips', although one child said 'the light goes along them' showing an awareness of function. 'Strap' did not provide many correct productive answers, where the most common response was a 'don't know' followed by responses which mentioned appearance e.g. 'black stuff; you put it around your shoulder', 'a rope'. In some definitions, attributes are combined with function. The 'globe' was most commonly 'a light'.

For other objects, the same trends are observed. The better known objects or parts of the object appear in the spontaneous and productive modes of presentation, while less well known ones appear in the receptive mode. The toothbrush collection produced some features which the children could not label proficiently. Some interesting items from this set are presented in Table 6.

TABLE 6: Frequency of Responses on the subset of items used for the 'toothbrush set'

Item	Frequency			
	Spontaneous	Productive	Receptive	Not Known
Lid	15	37	3	2
Handle	1	27	25	5
Tube	1	1	24	30
Bristles	1	2	29	26
Rim	0	0	9	43

'Rim' was the most difficult label to apply. Most children attempted to come to grips with the concept by using descriptions like 'circle', 'top'. 'Lid' and 'handle' were known by most children, although 'lid' appears to be more commonly used since it features spontaneously and productively more than receptively, while the opposite pattern was evident for 'handle'. 'Tube' and 'bristles' were unfamiliar to most of the children, and they used a wide range of descriptions to define them. 'Tube' for example was defined functionally as 'you squeeze it', and descriptively as the 'toothpaste thing' and 'pocket'. 'Bristles' were 'sticks', 'made of string', 'scrubbers', 'cleaners'; although functional definitions were given, e.g. 'you wash teeth with it' and 'to brush teeth good'. However, as labels, 'tube' and 'bristles' were not in the children's vocabulary at this stage.

Conclusion

The Vocabulary Assessment Task provided data on the response style of Kindergarten children. The kind of information that the task gave indicated levels of vocabulary learning (spontaneous, productive and receptive), and the type of strategies children use when a label is not known. The levels of vocabulary knowledge can provide explicit information for teachers to use in devising experiences in word building and mastery for children in their classes. The whole/part structure of the task is accepted as a useful technique in schools, and used in this open-ended way gives much descriptive information. Perhaps levels of vocabulary are more properly the province of teachers rather than researchers; certainly it is an area of interest and importance to teachers. When asked to name areas that they felt were important for the Project to evaluate, all teachers involved in implementing the five programs mentioned productive vocabulary as an area of acute interest.

The results of the Vocabulary Assessment Task indicated the pervasiveness of functional description in the language of children of this age group. The implication of this finding is that vocabulary activities can be structured so that children have an opportunity to build on this technique to achieve greater diversity in their word usage.

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APPENDIX A

Set of Items used in the Vocabulary Assessment Task, Kindergarten 1978

OBJECT	PARTS	ITEMS MATERIALS	FUNCTION/ACTION
1. shoe/sneeker	shoelace holes sole heel toe tongue label/tag	rubber material cloth	walk pair thread
2. toothbrush/ toothpaste/ cup	lid handle tube bristles rim	plastic metal	squeeze wash brush
3. iron	plug steam water electricity holes chord	metal	burn iron press
4. clock	numbers alarm bell stands hands face	metal glass	tick wind time turn
5. torch	button switch sieve batteries strap spring globe clips wires	plastic silver glass	switch light dark screw
6. pot plant	leaves plant seeds pot stem roots soil		grow plant water

APPENDIX A

Continued

Set of Items used in the Vocabulary Assessment Task, Kindergarten 1978

OBJECT	PARTS	ITEMS MATERIALS	FUNCTION/ACTION
7. book	page cover picture words printing spine front back numbers map street road	paper cardboard	read

APPENDIX 3

MT DRUITT EARLY CHILDHOOD PROJECT

VOCABULARY TASK

Object	Spontaneous	Productive	Receptive